

A Study of Serum Glucose and Metabolic Syndrome in Never Medicated Schizophrenic Patients

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Abstract

Background: Impaired fasting blood glucose levels and increased prevalence of metabolic syndrome has been reported and, clinically, noticed to be more frequent in patients with schizophrenia than general population. **Aim of work:** The study aimed to compare the fasting blood glucose levels, anthropometric measures, and metabolic syndrome in never medicated schizophrenic patients and normal controls. **Subjects and methods:** Forty never medicated schizophrenic patients and thirty controls-age and sex matched subjects were submitted for medical and psychiatric evaluation, and measurement of waist circumference, waist hip ratio, and body mass index. Schizophrenic patients were interviewed with the semi-structured clinical interview and the brief psychiatric rating scale. All participants were investigated for fasting blood glucose levels, serum levels of cholesterol and cortisol. **Results:** newly diagnosed never medicated schizophrenic patients have higher but statistically non significant W/H ratio, BMI, and serum cholesterol and cortisol levels. Serum glucose and cortisol levels have been found to be positively correlated with BMI, and W/H ratio in patients with schizophrenia. **Conclusion.** Never medicated - newly diagnosed schizophrenic patients show non significant differences from normal controls regarding serum glucose, cholesterol, and cortisol levels. They also show non significant differences regarding their anthropometric measures.

Introduction

Abnormalities in glucose and cholesterol relation have been reported in patients with schizophrenia after the introduction of antipsychotic medications as well as in the pre-neuroleptic era (Kasanin 1926, Kooy 1919, Raphael & Parsons 1921, Lorenz 1922, Thonnard 1968, Braceland et. al. 1945, Dixon et. al. 2000, and Tabata et. al. 1987). Schizophrenia has been reported to be associated with higher rates of impaired glucose tolerance, insulin resistance, and type II diabetes mellitus than general population (Ryan and Thakore 2002, & Bushe and Holt 2004). The recently introduced second generation antipsychotics have been repetitively attributed to be the cause of these increases in prevalence of impaired glucose tolerance in schizophrenics. However, the analysis of literature discloses that these controversies is not recent and an increase in the diabetes prevalence in schizophrenic patients was already discussed in the pre-neuroleptic era (Gury c 2004, Kohen 2004, and Stip et al., 2003). However, many studies have confirmed the increase in prevalence of diabetes in schizophrenic patients. Among the suggested mechanisms, there are

the sedentary life style, food imbalance, an some clues toward genetic sharing for diabetes and schizophrenia (Gury 2004, Subrmaniam et al., 2003, Ryan and Thakore 2002).

Moreover, the frequency of the metabolic syndrome is increased in schizophrenic populations. This syndrome associates blood glucose increase, lipid metabolism disorders and android obesity. This could explain - via increase of the cortisol production - the increase of mortality due to cardiovascular diseases in schizophrenic patients (Gury 2004). The aim of the current study was to compare fasting glucose levels in newly diagnosed never medicated schizophrenic patients and normal control subjects. Also, it aimed to find the correlation between serum levels of glucose, cortisol and cholesterol levels in schizophrenic patients to diet and exercise habits and anthropometric measures. Also the study has been designed to compare the metabolic syndrome in never treated schizophrenic patients with normal control subjects.